

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 January 2004 (29.01.2004)

PCT

(10) International Publication Number  
**WO 2004/009349 A1**

(51) International Patent Classification<sup>7</sup>: **B32B 17/10**,  
C03C 17/22, 27/12, G09F 13/20, H05B 3/86, B60Q 1/26

(21) International Application Number:  
PCT/GB2003/003095

(22) International Filing Date: 17 July 2003 (17.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0216787.2 19 July 2002 (19.07.2002) GB

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): PILK-  
INGTON PLC. [GB/GB]; Prescott Road, St. Helens,  
Merseyside WA10 3TT (GB).

Published:  
— with international search report

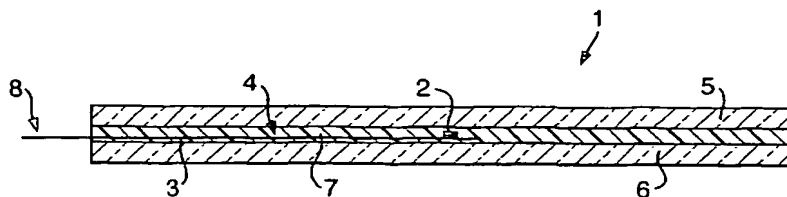
(72) Inventor; and

(75) Inventor/Applicant (*for US only*): DAY, Stephen,  
Roland [GB/GB]; 23 Almondbrook Road, Standish,  
Wigan WN6 0TB (GB).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(74) Agents: HALLIWELL, Anthony, Charles et al.; Group  
Intellectual Property Dept., Pilkington European Techni-  
cal Centre, Palkington PLC, Hall Lane, Lathon, Ormskirk,  
Lancashire L40 5UF (GB).

(54) Title: LAMINATED GLAZING PANEL



(57) Abstract: A laminated glazing panel is disclosed comprising two glass plies and a plastic ply having one or more light emitting diodes mounted on a circuit board laminated between the glass plies, forming an LED device. The circuit board is ordinarily a flexible circuit board comprising a substrate (of, for example, polyimide or polyester) and a conductive layer (for example, a copper foil or conductive ink). Preferably, the plastic ply has a thickness before lamination of 2 mm or lower and the thickness of the laminated glazing panel is 8 mm or lower. A plurality of light emitting diodes may be mounted on the flexible circuit board and laminated between the glass plies; the resultant glazing panel may further comprise indicia on at least one ply. Also disclosed are two processes for the production of a laminated glazing panel, each comprising positioning an LED device in a cut-out in a plastic ply and interleaving the plastic ply between two glass plies, prior to laminating the plies. One or more plastic plies may be used, and the LED device may be coated in a plastic material. Laminated glazing panels of the invention may be used in a window, door or screen.

WO 2004/009349 A1